

Date: Monday, 10/23/2006 12:05:28 PM
 Author: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: CROSSTUBE EXTRUSION (412 AFT)		
Job Number	: 29111		Part Number	: D6009129		
Estimate Number	: 10030		Drawing Number	: D6009 REV A		
P.O. Number	: N/A		Project Number	: N/A		
This Issue	: 10/23/2006	S.O. No. : N/A	Drawing Revision	: A		
Prsh Rev.	: NC		Material	: N/A		
First Issue	: N/A		Due Date	: 1/30/2007 Qty: 6 Um: Each		
Previous Run	: 26548					
Written By						
Checked & Approved By						
Comment	: Est Rev:A 01.08.17 New Issue SM					

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	PG	PURCHASING
Comment: PURCHASING		
	Issue P/O: <u>1339</u>	<u>U</u> <u>06/00-25</u>
	a) Order as per Dwg D6009	
	b) Material: 3.500 x 0.625 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube	
	c) Minimum ultimate tensile strength = 77 ksi	
	d) Minimum tensile yield strength = 66 ksi	
	e) Tolerance are per ASTM B210 (see details on Dwg D6009)	
	f) Material certification required	
2.0	D6009129P	Crosstube Material
Comment: Qty.: 1.0000 Each(s)/Unit Total : 6.0000 Each(s) Crosstube Material		
3.0	PACKAGING 1	PACKAGING RESOURCE #1
Comment: PACKAGING RESOURCE #1 Receive & Inspect For Transit Damage Ensure material certification is attached		
4.0	QC6	DIMENSIONAL CHECK
Comment: DIMENSIONAL CHECK Ensure Material certification comply to Dwg D		

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA:  Date: 07/03/08
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 10/23/2006 12:05:28 PM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION (412 AFT)

Job Number: 29111

Part Number: D6009129

Job Number:



Seq. #:	Machine Or Operation:	Description :
5.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
6.0	PACKAGING 1	PACKAGING RESOURCE #1
7.0	QC21	FINAL INSPECTION/W/O RELEASE <i>M8 07/03/27 8</i>

Job Completion



1707/03/28 (8)

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

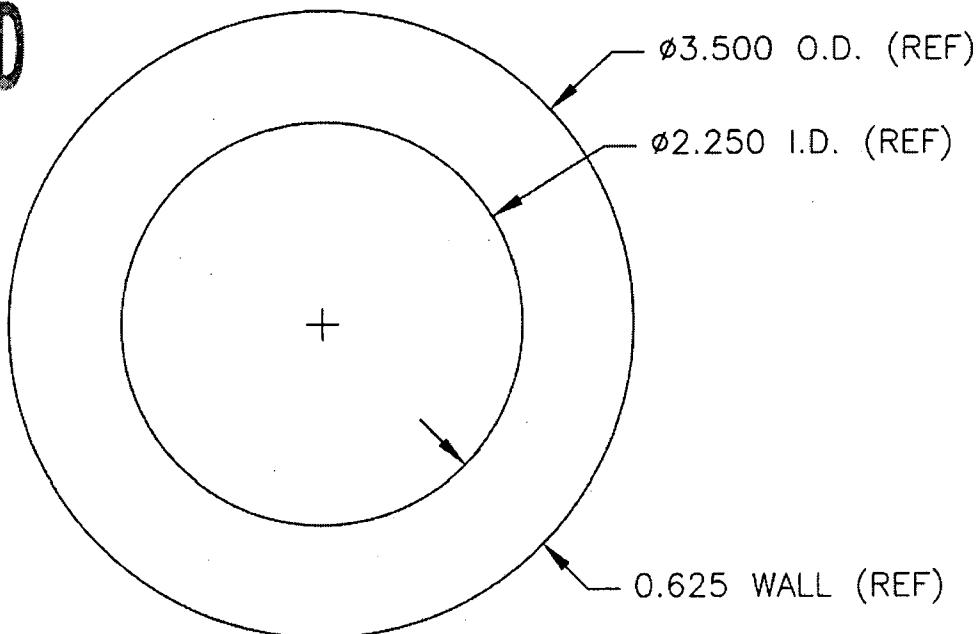
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN <i>H</i>	DRAWN BY <i>RF</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>H</i>	APPROVED <i>H</i>	DRAWING NO. D6009	REV. A SHEET 1 OF 1
DATE 01.08.16		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	01.08.16	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
01.08.17 HNOTES

- 1) D6009-XXX CROSSTUBE
 |
 | LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 129" LONG TUBE: D6009-129

- 2) MATERIAL: 3.500 OD x 0.625 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-FAG2257 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.008 MEAN (± 0.016 INCLUDING OVALITY)
WALL: ± 0.020 MEAN (± 0.063 INCLUDING ECCENTRICITY)
LENGTH: XXX +0.188/-0.000
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *Z9111*



invoice

31742

page: 5
date: 2.16.2007
customer 40980

Part Number D6007-106 crosstube
Surface Finish max. RMS 25
Tolerances per ASTM B210 / your drawing D6007
Tubes protected with corrosion protective oil
Tubes line marked
Packing: seaworthy wooden cases

item	quantity	unitprice	USD	unit	value	USD
008	8,000	PC	864,60	PC		6.916,80

AWU article: 17956 / Tariff no. 76082081
Customer article: D6009-129 3.500 X 0.625 X 129
product: TUBES / seamless extruded / EN AW-7075 / round
condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	88,900 mm	Tol.	+0,410	-0,410
inner diameter:	57,140 mm			
wall thickness:	15,880 mm	Tol.	+1,600	-1,600
fixed length	3277,000 mm	Tol.	+4,775	

test report acc. to EN 10204/3.1 / RM 531 / Rp0,2: 455
straightness 0,25 mm / 304,8 mm / RMS outer 25

tol. on quantity +15 % -15 %

3.500" OD 0.625" Wall, 129" lengths

Part Number D6009-129 crosstube

Surface Finish max. RMS 25

Tolerances per ASTM B210

Straightness 0.010" deviation /12" length

Outside surface: max. defects up to 0.005" (longitudinally)

Min. ultimate tensile strength 77 ksi

Min. yield strength 66 ksi

Tubes protected with corrosion protective oil

Tubes line marked

Packing list, Inspection certificate

Packing: seaworthy wooden cases

terms of delivery: DDP (Delivered, Duty, Paid)

Terms of payment: 30 days after date of delivery

delivery address:

MAIN FINISHED GOODS LOCATION
DART AEROSPACE LTD.
1270 ABERDEEN ST:
CDN Hawkesbury, ONT, K6A1K7
Kanada

carried forward:

46.854,02

order confirmation
21531

page: 5
date: 11.02.2006
customer 40980

Surface Finish max. RMS 25

Tolerances per ASTM B210 / your drawing D6007

Tubes protected with corrosion protective oil

Tubes line marked

Packing: seaworthy wooden cases

item	quantity	unit	price	USD	unit	value	USD	delivery
008	6,000	PC	864,60	PC		5.187,60		March 16, 2007

AWU article: 17956 / Tariff no. 76082081

Customer article: D6009-129 3.500 X 0.625 X 129

product: TUBES / seamless extruded / EN AW-7075 / round

condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	3,500 INCH Tol.	+0,016	-0,016
inner diameter:	2,250 INCH		
wall thickness:	0,625 INCH Tol.	+0,063	-0,063
fixed length	129,000 INCH Tol.	+0,188	

test report acc. to EN 10204/3.1 / RM 531 / Rp0,2: 455

straightness 0,01 INCH / 1 FEET / RMS outer 25

tol. on quantity +15 % -15 %

3.500" OD 0.625" Wall, 129" lengths

Part Number D6009-129 crosstube

Surface Finish max. RMS 25

Tolerances per ASTM B210

Straightness 0.010" deviation /12" length

Outside surface: max. defects up to 0.005" (longitudinally)

Min. ultimate tensile strength 77 ksi

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DART AEROSPACE LTD.

1270 ABERDEEN ST:

CDN Hawkesbury, ONT, K6A1K7

Kanada

80-



invoice

31742

page: 6
date: 2.16.2007
customer 40980

goods value: 46.854,02
total: 46.854,02

weight: gross 2587,50 net 1941,00
export exempt from tax - Country of origin: Germany

Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde: Dart Aerospace Ltd.

Client:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Produkt: Rohre nahtlos gepresst

Product / Produit: Tubes seamless extruded

Spezifikation: AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace D6009

Specification:

Werkstoff: 7075

Alloy/Alliage:

Abmessung

Size / Dimension

Kennzeichnung
Marking/Marquage:
ALUnna-Cert No.169/07-7075-T6511-Cast No.01604562-AMS-QQa200/11-3,500" OD x 0.625" Wall-Heat No.4200-
Lot21531/8-1-P.O.00002339

Lieferung
Delivered Material / Matériel délivré:

pcs.

lbs

Country of Manufacture: Germany

8 595

Zustand: T 6511
Temper/État

Zeugnisnummer: 169/07
Cert No.: / No. du certificat:

Bestellnummer: PO 00002339
Order No. / No. de commande

Auftrag: 21531/8
Our Reference/Notre Reference:

1. Chemische Analyse

Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ Cast No.	min. max.			1,2 2,0	2,1 0,30	0,18 0,28	5,1 6,1						
01604562	0,40 0,50	0,26 0,50	1,42 2,0	0,07 0,30	2,41 2,9	0,18 0,28	5,83 6,1	0,04 0,20	0 0,20	0 0			0,0001

Hydrogen content: <0,15 ccm/100 g Al

Elements without indication < 0,01 %

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat No.
	min. max.	77,0	66,0			
1	82,650	76,125	12,0		171	4200 - 8 pcs.
2	82,940	76,705	12,0		176	

RMS: outside 25. - max. 14 μ "

Ergebnis der
Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KroosD



Certified acc. to DIN EN ISO 9001:2000, valid until 2009-03-27
Certificate No.: 001959 QM

15.02.2007

ALUMINA
Abnahmbeauftragter

Packinglist ALUnna AG

Customer PO	P.O.00002339
ALUnna ref. no.	21531/8
Date:	02.15.07

We hereby declare that the wooden packing material are totally free from bark and apparently

free from live plant pests

Boxmarking:

Dart Aerospace P.O. 00002339 Box No...
D6009-129 Made in Germany
Dest. Hawkesbury ONT Canada